

REMARKS

A cross-reference to the parent application/patent has been added to the first page of the specification.

The December 17, 2003 Office Action has been carefully considered. The claim amendments above and the following comments are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance. Specifically, independent claims 1 and 10 have been amended, to more clearly distinguish those claims over applied art. New claims 21 and 22 depend from 10 and 1 respectively. New claims 24-30 have been added to specify other patentable subject matter. Claims 1-30 are pending and should be in condition for allowance, for reasons discussed below. Prompt favorable reconsideration of the amended application is solicited.

Claims 1 and 3 were rejected as anticipated by US patent no. 4,636,137 to Lemelson. Claims 1-20 were rejected as unpatentable over US patent no. 6,333,631 to Das et al. (hereinafter Das) in combination with Lemelson. These rejections are traversed, particularly to the extent if any they might be considered applicable to the claims now pending in this application.

Lemelson does not disclose an arrangement in which the axis of rotation of the sensor (camera 34) is parallel to and offset from the axis of rotation of the support. In Lemelson, the support 11 rotates about a vertical axis, and the camera 34 rotates about a horizontal axis. The horizontal axis of rotation of the camera 34 is substantially perpendicular to the vertical axis of rotation of the support 11. Hence, Lemelson does not anticipate amended independent claim 1, which recites that the sensor rotation axis is parallel to and offset from the axis of rotation of the supporting extension. Dependent claim 3 incorporates the same distinguishing feature.

Applicants therefore request withdrawal of the anticipation rejection of claims 1 and 3 over Lemelson.

In the obviousness rejection, the Examiner recognized that Das does not disclose a first support extension that is fully rotatable about a first axis, and that Das fails to disclose a sensor mounting that allows full rotation of one sensor (claim 1) about a second axis or that allows full rotation of two sensors about respective second and third axes (claim 10). Lemelson was cited for teachings of full rotation about different axes. It is submitted, however, that Lemelson does not fairly provide a sufficient teaching to make the amended versions of claims 1 and 10 unpatentable.

Independent claim 1 has been amended to specify that the rotational axis of the sensor (second axis) is parallel to and offset from the axis of rotation of the support extension (first axis). As noted above, Lemelson teaches full rotation of the sensor about an axis that is perpendicular to an axis of rotation of the supporting extension. It is respectfully submitted that one of skill in the art would not be taught by Lemelson to modify the Das apparatus so as to provide full rotation of the supporting extension about its axis and full rotation of the sensor about a parallel axis, as claimed. Claims 1-9 and 22 therefore should be patentable over the proposed combination of Das and Lemelson.

Claim 10 now specifies that each of the sensor rotation axes is substantially parallel to and offset from the first axis around which the supporting extensions rotate. Lemelson, the source cited as a teaching of full rotation, only teaches full rotation of the sensor about an axis that is perpendicular to an axis of rotation of the supporting extension. As such, Lemelson does not fairly suggest modifying Das to provide full rotation about two sensor axes, where the two sensor axes are parallel to and offset from the axis of full rotation of the supporting extensions.

Hence, Das and Lemelson together would not fairly suggest all of the features recited in independent claim 10. Claims 10-21 therefore should be patentable over the proposed combination of Das and Lemelson.

New independent claim 23 specifies different patentable subject matter. Das does not teach full rotation of the support and the sensor about the respective axes, as in new claim 23. Lemelson does not suggest that the axes of rotation are parallel, as in new claim 23. Neither Das nor Lemelson teaches that the sensor rotates in a direction opposite to rotation of the support at such a rate that orientation of the sensor relative to the direction of movement over the ground remains substantially constant during rotation of the support and the sensor (see last paragraph of claim 23). Hence, neither Das nor Lemelson alone nor any combination thereof would meet the limitations of new independent claim 23. Claims 23-32 therefore patentably distinguish over the applied art.

For reasons discussed above, all of the pending claims (1-30) should be allowable over the art. It is respectfully submitted that this case should be in condition for allowance. Prompt favorable reconsideration and issuance of a notice of allowability of all of the pending claims are earnestly solicited.

It is believed that this response addresses all issues raised in the February 26, 2004 Office Action. However, if any further issue should arise that may be addressed in an interview or obviated by an Examiner's amendment, it is requested that the Examiner telephone Applicants' representative at the number shown below.

To the extent necessary, if any, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this

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paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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